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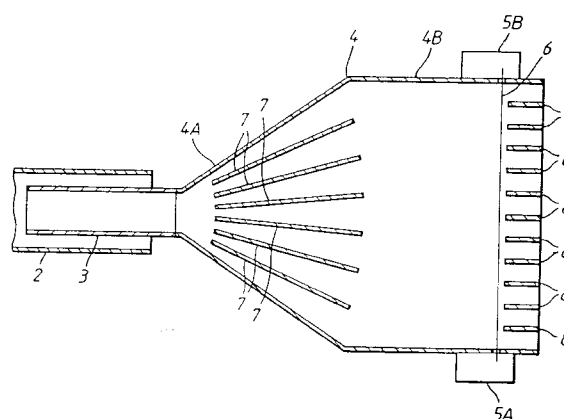
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(54) **Exhaust gas particle sensor.**

(57) An exhaust gas particle sensor (1) has an inlet tube (3) and a sensing region (4) having different cross sections and linked by a transition region (4A) including a number of baffles (7) arranged so that the time taken for gas to travel from the inlet tube (3) to the sensing region (4) is substantially independent of the position of the gas across the inlet tube (3). The sensor (1) operates by measuring the opacity of the exhaust gas using a light beam (6) which passes in and out of the sensing region through windows (23), the exhaust gas being prevented from impinging on each window (23) by a double air curtain.



*Fig. 3.*



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# EUROPEAN SEARCH REPORT

Application Number

EP 92 30 9677

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-4 066 364 (EMERSON) * column 4; figures 2-3 * ---	1-3,11	G 01 N 1/22 G 01 N 21/59 G 01 N 21/53
A	WO-A-8 706 697 (PACIFIC SCIENTIFIC COMPANY) * page 4, line 10 - page 5, line 17; figures 1-2; page 6, line 3 - line 10 * ---	1	
A	US-A-3 843 266 (LITTLEWOOD) * column 1, line 45 - column 2, line 15; column 2, line 42 - line 64; figure 1 * ---	1,11,8-10	
A	US-A-4 662 758 (FUKUI ET AL.) * column 4, line 23 - line 50; figures 4,8-9 * ---	1-3	
A	WO-A-9 102 236 (METONE) * page 7, line 1 - line 22; figures; page 9, line 24 - line 32 * ---	1,3	
A	GB-A- 643 867 (CO2 FIRE EQUIPMENT COMPANY) * page 2, line 109 - page 3, line 21; figure 5 * ---	1-2	TECHNICAL FIELDS SEARCHED (Int. Cl.5)  G 01 N
A	US-A-3 316 410 (MEILI ET AL.) * figure 3 * ---	1	
		-/-	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22-12-1992	Examiner HOCQUET A P E
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P0401)



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### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet -B-

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims: 1-4, 8-11



European Patent  
Office

# EUROPEAN SEARCH REPORT

Page 2

Application Number

EP 92 30 9677

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-4 206 630 (POWERS) * column 4, line 17 - line 57; column 6, line 42 - column 7, line 58 * ---	1	
A	JOURNAL OF PHYSICS D APLIED PHYSICS vol. 4, no. 11, November 1971, GB pages 1835 - 1841 VINCENT 'evaluation of a light transmission technique' * figure 2 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22-12-1992	Examiner HOCQUET A P E
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>..... &amp; : member of the same patent family, corresponding document</p>			

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EP 92 30 9677 -B-

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-4,8-11 : Baffles modifying the traject of the gas in an exhaust gas particle sensor.
2. Claims 5-7 : Cleaning arrangement for windows in an exhaust gas particle sensor.